SAMSUNG

SUR40 for Microsoft® Surface®

User Manual

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

BN46-00030A-02

Chapter. 1

Before Using the Product

Copyright

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- An administration fee may be charged if either.
  - (a) an engineer is called out at your request and there is no defect in the product (i.e. where you have failed to read this user manual).
  - (b) you bring the unit to a repair center and there is no defect in the product (i.e. where you have failed to read this user manual).
- The amount of such administration charge will be advised to you before any work or home visit is carried out.

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Safety Precautions

Caution

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
THERE ARE NO USER SERVICEABLE PARTS INSIDE.
REFER ALL SERVICING TO QUALIFIED PERSONNEL.

Symbols

Warning A serious or fatal injury may result if instructions are not followed.

Caution Personal injury or damage to properties may result if instructions are not followed.

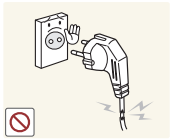
Activities marked by this symbol are prohibited.

Instructions marked by this symbol must be followed.

Electricity and Safety

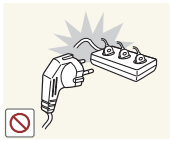
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



Do not use a damaged power cable or plug, or a loose power socket.

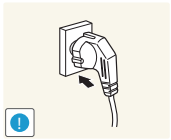
- An electric shock or fire may result.



Do not use multiple products with a single power socket.

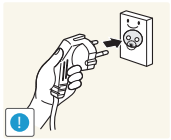
- Overheated power sockets may cause a fire.

Do not touch the power cable with wet hands. Otherwise, an electric shock may result.



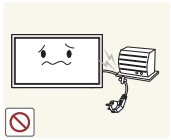
Insert the power cable all the way in so it is not loose.

- An unsecure connection may cause a fire.



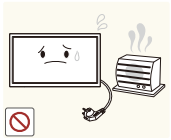
Ensure you connect the power cable to a grounded power socket.(type 1 insulated devices only)

- An electric shock or injury may result.



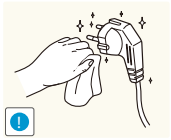
Do not bend or pull the power cable with force. Be careful not to leave the power cord under a heavy object.

- Damage to the cord may result in a fire or electric shock.



Do not place the power cable or product near heat sources.

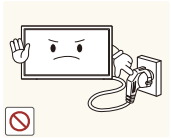
- A fire or electric shock may result.



Clean any dust around the pins of the power cable or the power outlet using a dry cloth.

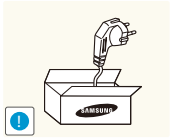
- A fire may result.

Caution



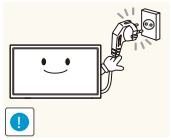
Do not disconnect the power cable while the product is being used.

- The product may become damaged by an electric shock.



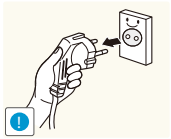
Only use the power cable provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



Keep the power socket where the power cable is connected unobstructed.

- The power cable must be disconnected to cut off power to the product when an issue occurs.



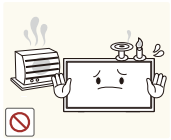
Hold the plug when disconnecting the power cable from the power socket.

- A fire or electric shock may result.

Installation and Safety

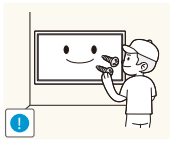
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- A fire may resullt.

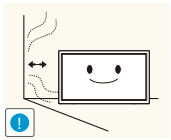


Have a technician install the wall-mount hanger.

- Installation by an unqualified person can result in an injury.
- Ensure you use the wall mounts kit of specified VESA size.

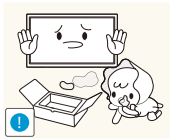
Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



Install the product at least 10 cm (4 inches) away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.

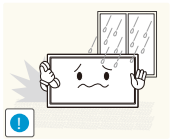


Keep the plastic packaging out of the reach of children.

- Children may suffocate.

Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

- The product may fall and become damaged and/or cause an injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

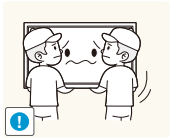
- A fire or electric shock may result.

Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- The product lifespan may be reduced or a fire may result.

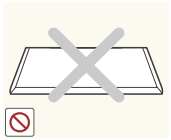
Edible oil, such as soybean oil, can damage or deform the product.
Do not install the product in a kitchen or near a kitchen counter.

Caution



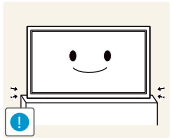
Do not drop the product while moving.

- Product failure or personal injury may result.



Do not set down the product on its front.

- The screen may become damaged.



Set down the product gently

- Product failure or personal injury may result.

Installing the product in an unusual place (a place exposed to a lot of fine particles, chemical substances or extreme temperatures where the product should operate continuously for an extended period of time) may seriously affect its performance.

- Be sure to consult Samsung Customer Service Center if you want to install the product at such a place.

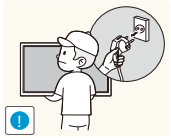
Operation and Safety

The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning

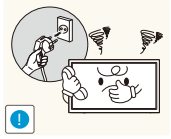
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

- A fire or electric shock may result.
- Contact Samsung Customer Service Center for repairs.



Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

- Damage to the cord may result in a fire or electric shock.



If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cable immediately and contact Samsung Customer Service Center.

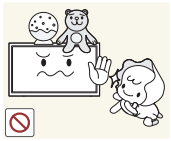
- An electric shock or fire may result.

Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.

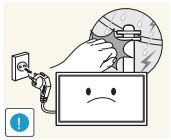
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cable. Then contact Samsung Customer Service Center.

- Continued use can result in a fire or electric shock.



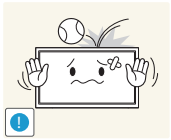
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

- The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.



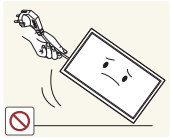
During a lightning or thunderstorm, remove the power cable and do not touch the antenna cable.

- A fire or electric shock may result.



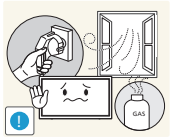
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



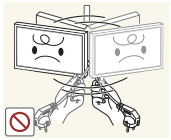
Do not move the product by pulling the power cable or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



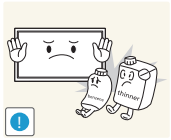
If a gas leakage is found, do not touch the product or power cable. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



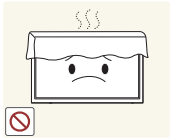
Do not lift or move the product by pulling the power cable or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



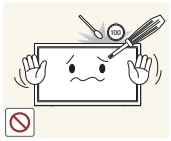
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.



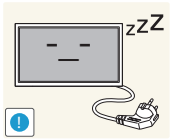
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- Be sure to power off the product and disconnect the power cable when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

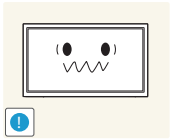
- Be sure to power off the product and disconnect the power cable when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Caution



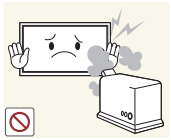
Disconnect the power cable from the power socket if you do not plan on using the product for an extended period of time (vacation, etc.).

- Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.



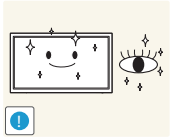
Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.



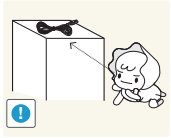
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.



Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.



Store small accessories out of the reach of children.

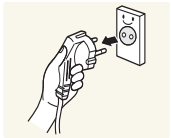
Do not place heavy objects on the product.

- Product failure or personal injury may result.

Cleaning

The following images are for reference only. Real-life situations may differ from what is shown in the images.

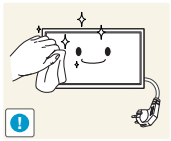
The panel and exterior of the cutting-edge LCD product scratch easily and require careful attention.
Clean the product according to the following steps:



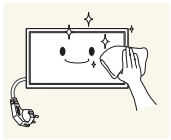
1. Power off the product.
2. Remove the power cable from the product.

NOTE

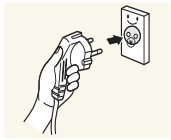
Hold the power cable by the plug and do not touch the cable with wet hands.
Otherwise, an electric shock may result.



3. Wipe the product screen using a clean, soft and dry cloth.
   - Do not use detergents that contain alcohol or solvent.
   - Do not spray water or detergent directly on the product.



4. To clean the exterior of the product, use a moist soft cloth and wring thoroughly before wiping the exterior.



5. After cleaning the product, connect the power cable to the product.
6. Power on the product to use it.

Storage

Due to the characteristics of high-glossy products, using a ultrasonic humidifier humidifier nearby may create white-colored stains on the product.

Chapter. 2

Preparation

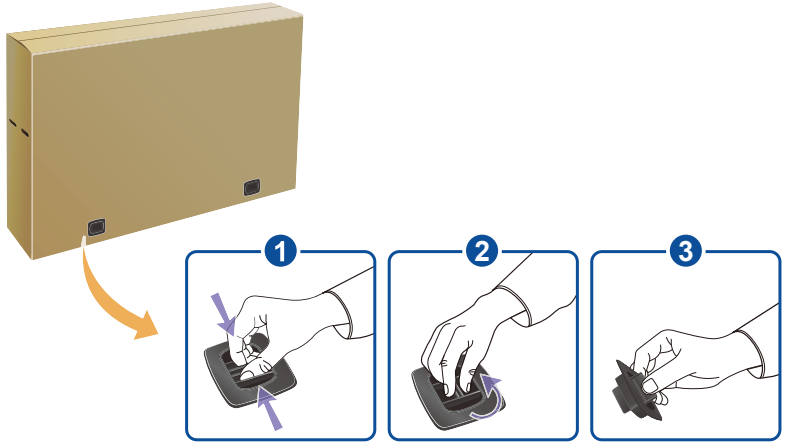
Checking the Contents

Removing the Packaging

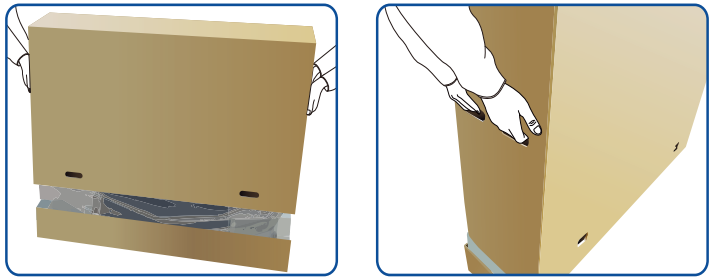
NOTE

The appearance of actual components may differ from the images shown.

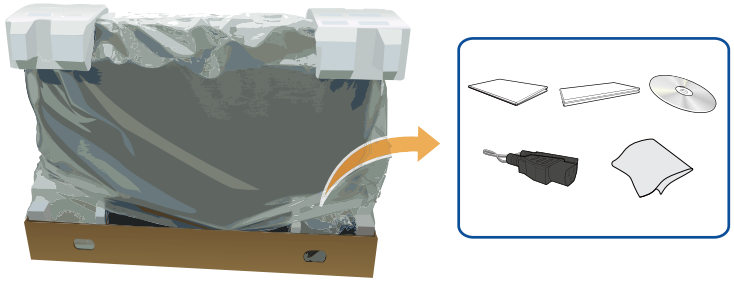
1. Remove the black locking device at the bottom of the box.



2. Using the grooves in the box, lift and remove the top of the box.



3. Check the components and remove the styrofoam and plastic bag.



Checking the Components

NOTE

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components and items sold separately may differ from the image shown.

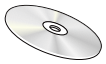
Components

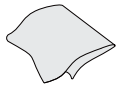
NOTE

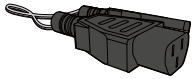
Components may vary depending on the country.

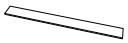
Quick setup guide

Warranty card


User manual


Cleaning cloth

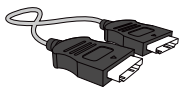

Power cable

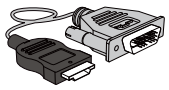

Jack cover

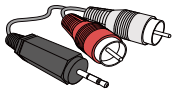
Items sold separately

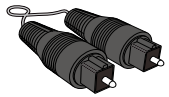
NOTE

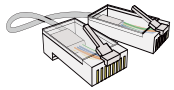
The following items can be purchased at your nearest retailer.


HDMI cable


HDMI-DVI cable


RCA stereo cable


Optical cable


LAN cable

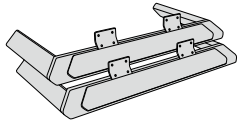


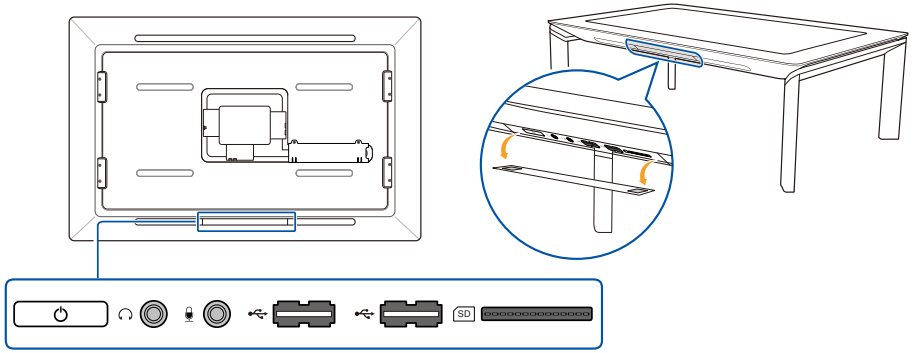
Table legs

Parts

Side View

NOTE

- The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.
- The table legs are sold separately.
- To locate the buttons and ports, detach the magnet from the product.

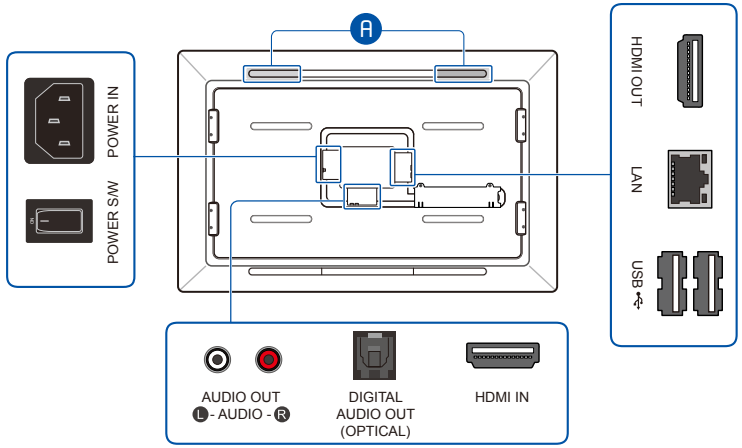


BUTTONS AND PORTS	FUNCTIONS
	Power on or off the product. **NOTE** Pressing this button very briefly when the product is turned on will display the OSD menu. To shut down the product, press the button for more than 5 seconds.
	Connect to headphones.
	Connect to a microphone.
	Connect to a USB device (keyboard, mouse, etc.).
	Connect to a memory card.

Rear View

NOTE

The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

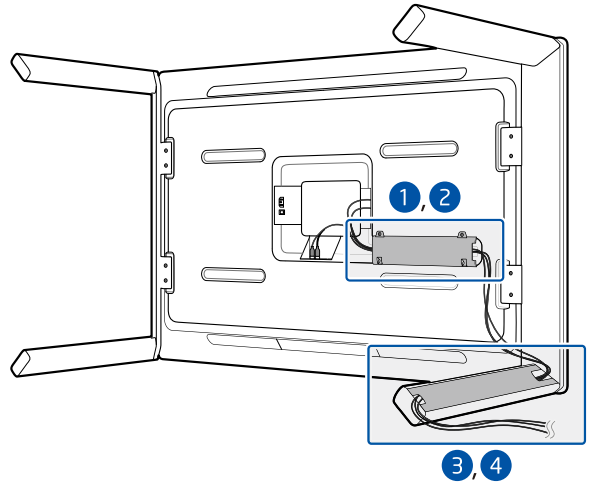


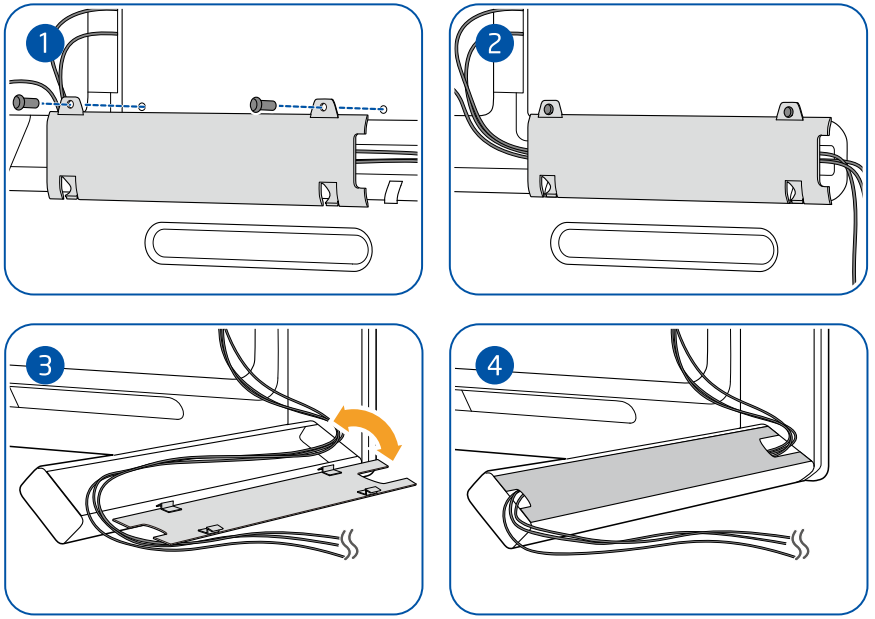
PORTS	FUNCTIONS
[**POWER IN**]	Connect to the power cable.
[**POWER S/W**]	Power switch
[**AUDIO OUT**]	Connect to headphones or external speakers.
[**DIGITAL AUDIO OUT (OPTICAL)**]	Connect to an audio output device to produce higher-quality audio output (optical).
[**HDMI IN**]	Connects to a source device using a HDMI cable or HDMI-DVI cable.
[**HDMI OUT**]	Connect to another display using the HDMI or HDMI-DVI cable.
[**LAN**]	Connect to a network using the LAN cable.
[**USB**]	Connect to a USB device (keyboard, mouse, etc.).
A	Speakers

Tidy-up the Wires

NOTE

The table legs are sold separately.

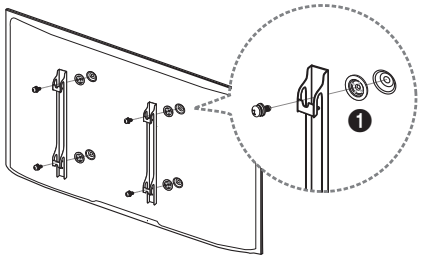




Installing the Wall Mount

Preparing before installing Wall-Mount

To install a wall-mount from another manufacturer, use the Holder-Ring.



Installing the Wall Mount Kit

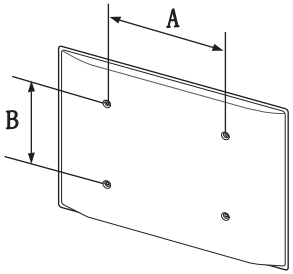
The wall mount kit (sold separately) allows you to mount the product on the wall.
For detailed information on installing the wall mount, see the instructions provided with the wall mount.
We recommend you contact a technician for assistance when installing the wall mount bracket.
Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

Wall Mount Kit Specifications (VESA)

NOTE

Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information. If you install the product on a ceiling or slanted wall, it may fall and result in severe personal injury.

NOTE



- Standard dimensions for wall mount kits are shown in the table below.
- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.

VESA SCREW HOLE SPECS (A * B) IN MILLIMETERS	STANDARD SCREW	QUANTITY
600 X 400	M8	4

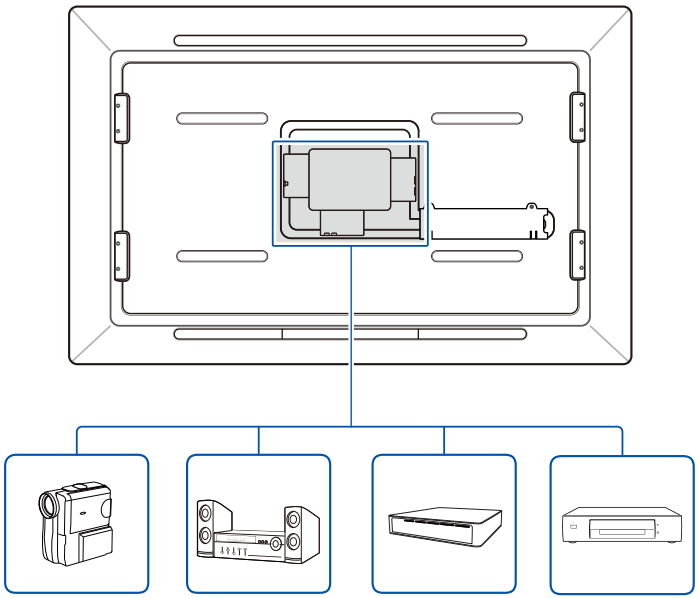
- Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.
- When the product is installed vertically, do not use portrait orientation.

Chapter. 3

Connecting and Using a Source Device

Checklist before Connecting to Source Devices

Check the following before you connect this product with other devices.
The product can connect to a camcorder, audio player, set-top box, DVD player, etc.
(Note that the optimal performance can be achieved when the resolution of the source device is Full HD 1080p.)

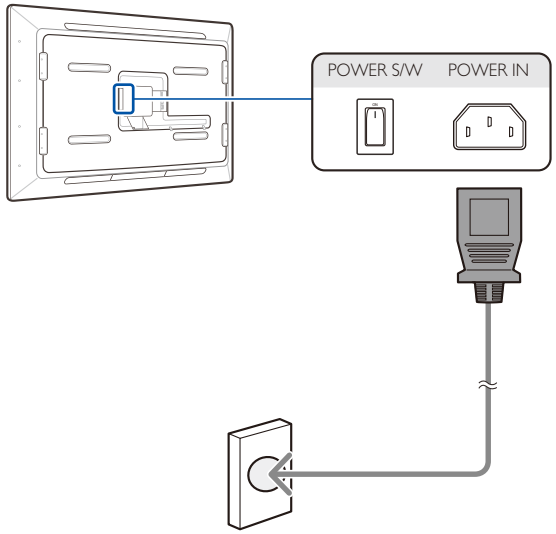


Pre-connection Checkpoints

- Check the available ports on the back of the source device.
- Refer to the user manual for the source device when connecting it to the product.
  The number and locations of ports can vary depending on the source device.
- Do not connect the power cable until all connections are completed.
  Connecting the power cable during connection may damage the product.

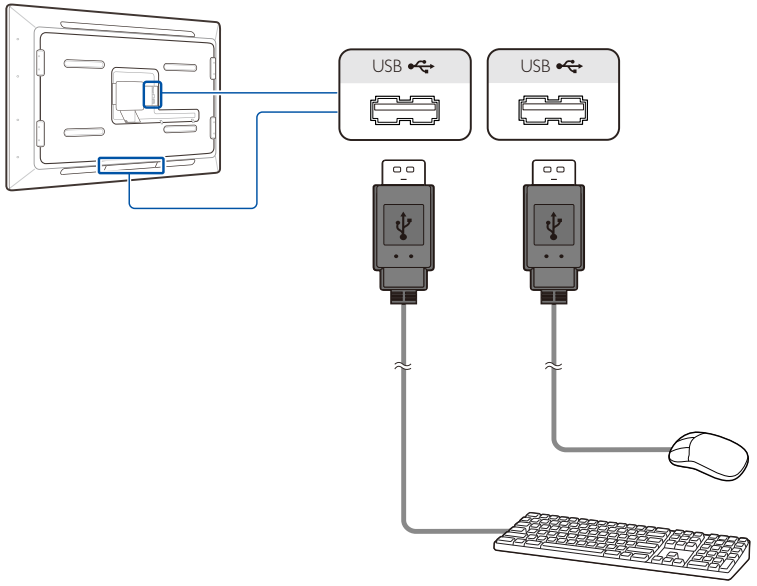
Before using the product

Connecting the Power



1. Connect the power cable to the product and power outlet. Next, turn on the power switch.

Connecting USB Devices



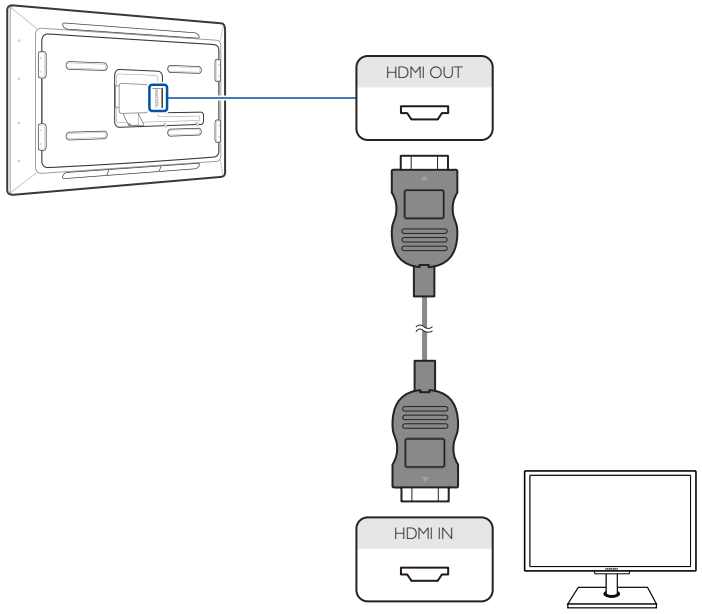
1. Connect a USB device (keyboard, mouse, etc.) to a [**USB**] port on the product.

NOTE

USB 2.0 devices are supported.

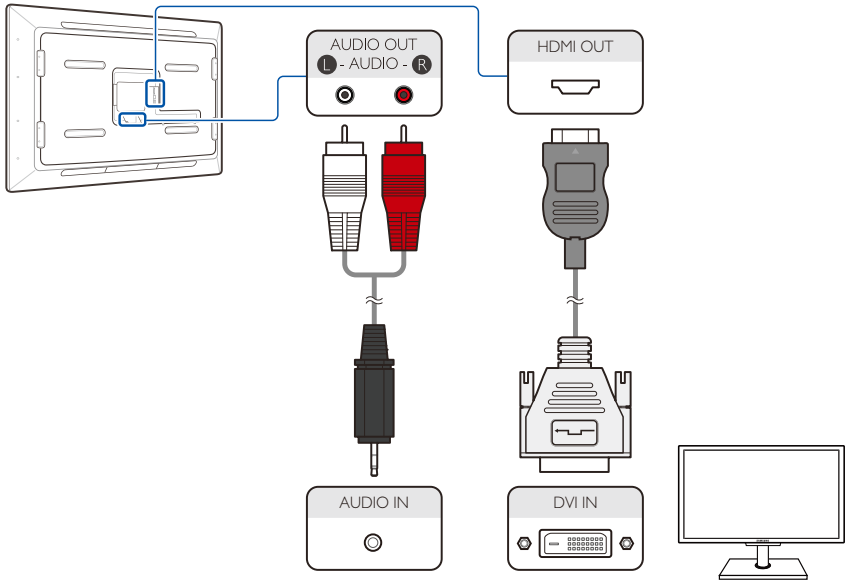
Connecting to an External Display

Connection Using an HDMI-HDMI Cable



1. Connect the HDMI cable to [**HDMI OUT**] on the product and HDMI IN on the external display.
2. Connect the power cable to the product, and turn on the power switch. Next, power on the external display.
3. After connecting the HDMI cable, set the input source for the product to HDMI.
   - Press the [ ] button on the product.
     Go to Input Sorce on the on-screen display menu. Next, select HDMI.

Connection Using an HDMI-DVI Cable



1. Connect the HDMI-DVI cable to [**HDMI OUT**] on the product and DVI IN on the external display.
2. Connect the RCA cable to [**AUDIO OUT**] on the product and AUDIO IN on the external display.
3. Connect the power cable to the product, and turn on the power switch. Next, power on the external display.

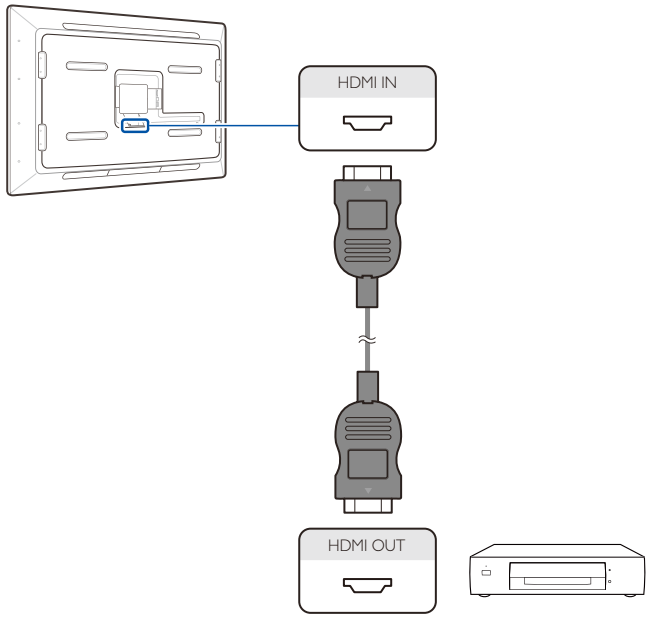
NOTE

The HDMI-DVI cable does not support audio. To enable the audio, connect the stereo cable.

Connecting to a Source Device

Choose an appropriate connection method to connect to the source device.

Connection Using an HDMI-HDMI Cable

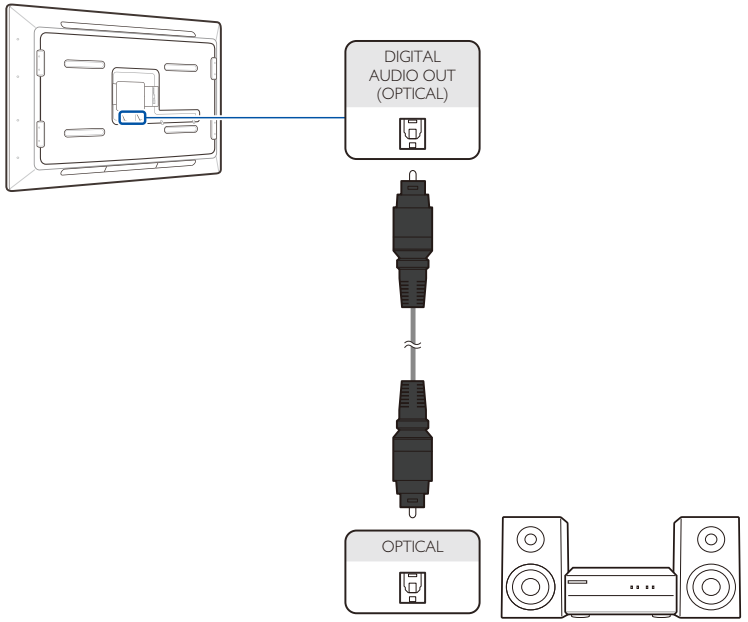


1. Connect the HDMI cable to [**HDMI IN**] on the product and HDMI OUT on the source device.
2. Connect the power cable to the product and power outlet. Next, turn on the power switch on the source device.

NOTE

- The picture may not display colors properly and/or the audio may not be available if a source device using an older version of HDMI is connected to the product using a later version of HDMI.
  If such a problem occurs, ask the manufacturer of the source device for the HDMI version. If it is an older version, request an upgrade.
- This product does not support the Ethernet function via HDMI.
- Audio output will not be supported if the audio content is protected.

Connecting to an Amplifier

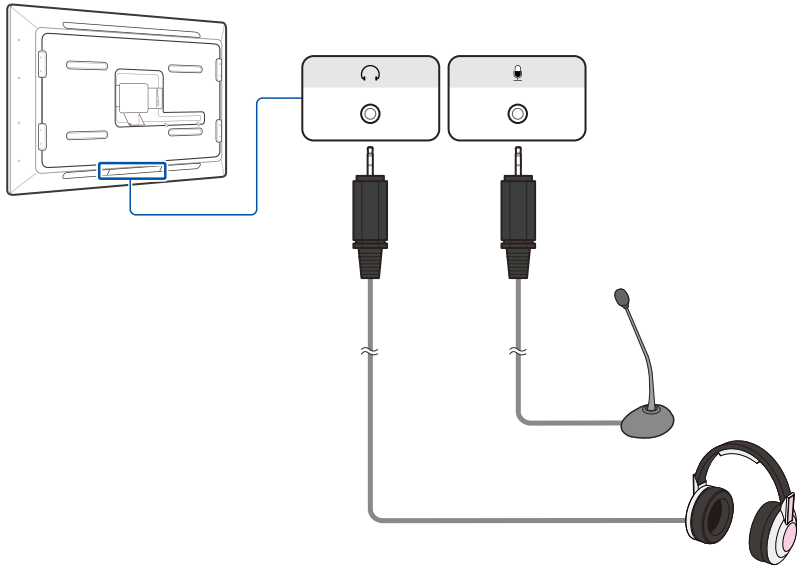


1. Connect the [**DIGITAL AUDIO OUT(OPTICAL)**] port on the product to the digital audio input port on the digital amplifier using the optical cable.

NOTE

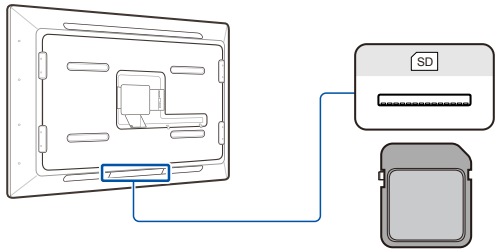
For further details on how to connect to speakers or an amplifier, refer to the user manual for the speakers (or amplifier).

Connecting to Headphones or a Microphone



1. Connect the headphones and microphone to [ ] and [ ] on the product respectively.

MicroSD (HC) Card Slot Connection

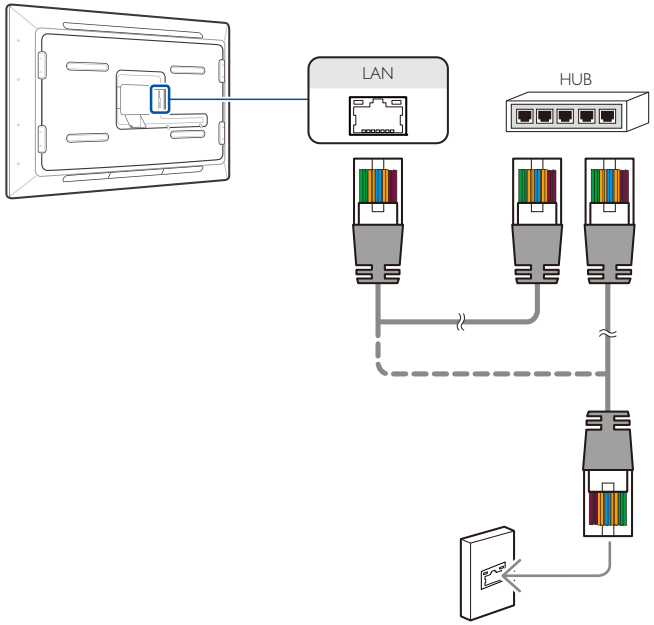


1. Insert the memory card into [SD] on the product.

NOTE

The maximum external memory capacity may vary depending on the memory card.

Connection Using the LAN Cable



1. Connect the LAN cable to [**LAN**] on the product.

NOTE

- It is not supported when the network speed is below 10 Mbps.
- Ensure you use the CAT 5 (*STP type) cable.
  *Shielded Twist Pair

Chapter. 4

Using the Product

About Surface

As this product is using the Windows 7 operating system, you can use Windows 7 without the need to connect to a PC. The Bing™ for Microsoft® Surface® application is installed on this product by default. For further information about the application, visit www.surface.com.
You can perform all tasks simply by touching the screen. A mouse or keyboard may not be required. Multiple touch inputs can be detected at the same time.
The product features various applications and functions (photo, video, map, simulation, shopping, game, etc.) which can conveniently be used by many useful services such as medical and banking services.

Product Features

1. The 52 touch points allow multiple touches to be detected at the same time.
2. It satisfies VESA mount standards and can be installed onto a wall. It can also be used as a table by attaching the table legs (sold separately).
3. The vivid HD display screen can show a wide range of colors bringing you a full visual experience.
4. Various Microsoft applications are available on the product.
5. The product is sensitive to light and should be used in a dark indoor location.
   This touch-screen-type product is controlled by the infrared light source inside of the panel. The touch sensitivity may degrade when the product is used under a light source such as natural light, a halogen lamp, or an incandescent bulb.
   Please see the Samsung SUR40 for Microsoft® Surface® Venue Readiness Guide for further instructions. The guides are provided in English (.pdf) only.

Creating a Windows user account

NOTE

To use the product, you must create a Windows user account during installation.

The Windows user account creation screen appears when the product powers on for the first time after purchase.
Create an account following the instructions on the screen before using the product.

Ensure you set the language for Windows properly when using the product for the first time after purchase.
The language cannot be changed after initial settings are configured.

Please see the Microsoft® Surface® 2.0 Administrator Guide for further instruction.
The guides are provided in English (.pdf) only.

To view the Microsoft® Surface® Venue Readiness Guide and Microsoft® Surface® 2.0 Administrator Guide, download them from www.samsunglfd.com or www.surface.com.

Preparing a Venue for Samsung SUR40 for Microsoft® Surface®

When you bring Samsung SUR40 for Microsoft® Surface® into your venue, you must balance the environmental, physical, and social considerations to find the optimum location for the SUR40.

This guide helps you choose the best location for Samsung SUR40 for Surface in your venue and determine any issues that you should address before Samsung SUR40 arrives.

Choosing Where to Place Samsung SUR40

As you prepare your venue for Samsung SUR40 for Microsoft® Surface®, you should choose an indoor area for Surface that provides the best experience for users and enables the device to operate safely and reliably. The area should meet the following qualifications:

1. Provides sufficient room for users to comfortably interact with Samsung SUR40 from all sides.
   Samsung SUR40 for Surface expels a small amount of heat through its exhaust vents. If Samsung SUR40 is turned on for extended periods in a small enclosed area, the area will likely become warm. Make sure that the device is not located in an enclosed area. Also, make sure that there are no heating or air conditioning ducts immediately around the device so that users do not experience sudden temperature changes and so that they can remain comfortable in the location.

- You must not place Samsung SUR40 for Surface near any heat sources such as radiators, heat ducts, registers, stoves, or heating appliances. Samsung SUR40 for Surface must also be placed on a dry surface that is flat and level, is clean and free of dust and debris, and will not allow the device to tip over, slip, or slide.

2. Samsung SUR40 for Surface detects input on the screen by using infrared light and projects images on the screen. (Samsung SUR40 does not require any external source of lighting to display images.) You must set up the proper type and level of lighting around the Samsung SUR40 because lighting can affect how well the Samsung SUR40 can detect input and how well users can see images on the screen.
   You should consider both infrared and visible light when you are evaluating possible locations for Samsung SUR40 for Surface.

3. Is near electrical outlets and other connections (such as network) that you want.

NOTE

Surface also supports a wireless network connection.

Lighting Considerations

The lighting around Samsung SUR40 for Microsoft® Surface® can potentially affect the quality of the touch and object recognition.

Samsung SUR40 for Surface detects input on the screen. (Samsung SUR40 does not need any external source of lighting to display images.) You must set up the proper type and level of lighting around the Samsung SUR40 because lighting might affect how well the Samsung SUR40 can detect input and how well users can see images on the screen.

Do not put Samsung SUR40 made for Surface outside. Sunlight will affect performance. Halogen and incandescent bulbs may also affect performance, so we recommend that you replace them with compact fluorescent bulbs, if possible.

The screen is designed to minimize light reflections. However, you still must test the Samsung SUR40 for reflections after you position it. For example, you might have bright spot lights that are too close to the Samsung SUR40. Most external lighting does not cause a reflective glare, but it is always a good idea to make sure that Samsung SUR40 for Surface offers the optimal experience for users. Check the Samsung SUR40 from every side for glare. If you notice a reflective glare, minimize the direct light sources.

You should consider both infrared light and visible light when you are evaluating possible locations for Samsung SUR40.

Infrared Light

Samsung SUR40 for Surface uses sensors that detect infrared light, which is used to track and respond to users' hand and finger movements. External sources of infrared light (such as sunlight, unshielded incandescent light, or halogen or metal halide bulbs) may interfere with the Samsung SUR40's responses and adversely affect the user experience. For example, if there is too much infrared light around Samsung SUR40, the Samsung SUR40 might accidentally respond to motion from a user even when the user's hands are far away from the screen. Because of the high quality of the display, you can place Samsung SUR40 in most lighting conditions. However, we recommend that you choose a location for Samsung SUR40 that is away from obvious sources of infrared light, such as windows or halogen and incandescent spotlights.

You can also replace halogen or incandescent lights with fluorescent lights that have similar ratings to maintain the same visible lighting level and reduce extraneous infrared light.

- One of the most important lighting issues for Samsung SUR40 for Surface is sunlight. You must make sure that Samsung SUR40 is not exposed to direct sunlight. Check a potential location to make sure that the sun does not shine directly on that spot at any time during the day.

Additionally, you can use filters, films, and glass to help reduce infrared light in the area around Samsung SUR40. Films and filters can be especially helpful to cover windows if you must locate Samsung SUR40 made for Surface near windows. The following table lists some options. We do not recommend one infrared filter manufacturer over another.

Item	Visible transmission	Infrared light transmission
Perm 38000 IR/UV Hot mirror from Rosco Laboratories, Inc. Available in 2” × 2”, 1.95” round, 5.25” round, 6.3” round, 8.25” round, and custom sizes.	93%	2%
Panorama Window Film from Bekaert Specialty Films Available in film roll for installation on glass windows. This film is a polyester film with a metallic layer.	70%	30%
Solarban 70XL Window Glass from PPG Architectural glass that is available as windows or 6-mm-thick sheets.	75%	3%

Visible Light

Like with other types of displays (such as a computer monitor), visible light can affect how easily users can see images on the screen of Samsung SUR40 for Surface. Reflections and glare can be a problem if there is a lot of visible ambient light around Samsung SUR40. We recommend that you place Samsung SUR40 in an area of subdued lighting, preferably from a fluorescent source (for example, fluorescent tubes or compact fluorescent bulbs).

Before your Samsung SUR40 for Surface arrives in a venue, you can proactively check for obviously strong or directed lighting that might cause problems by turning on all lights that will typically be turned on for the venue. When your Samsung SUR40 arrives, check the screen of Samsung SUR40 for Surface from every side for reflections and glare.

If you find any visibility problems, redirect lights so that they will not point at the Samsung SUR40 or dim any directed light source that you cannot redirect.

Changing Light Conditions

Lighting is not constant. Make sure that you consider how light around Samsung SUR40 for Surface changes during the day.

Many venues are open from 8 through 12 or 24 hours a day. Natural and artificial lighting in such venues can change significantly from morning to afternoon to evening. Even if you design light specifically for Samsung SUR40, you might have to change or modify the light during the day. For example, natural or indirect light might darken during the evening, requiring you to adjust the fluorescent lighting that is installed specifically for the Samsung SUR40.

In addition, Samsung SUR40 for Surface might appeal to different audiences at different times of the day. For example, you could appeal to families during the day by creating a brighter environment and appeal to adult users in the evening by using a dimmer environment. In situations like this, make sure that you design lighting that is adjustable.

Optimizing the Surface Location

1. After you have chosen where to place Samsung SUR40 for Microsoft® Surface®, you can optimize the area around the Samsung SUR40 to highlight it and enhance the user experience. These types of changes can affect whether people notice Samsung SUR40 for Surface and how long they interact with it.
2. Poor cleanliness (such as dust, scrap paper, pen marks, used napkins, or food residue) also deters potential users. People are less likely to approach or use Samsung SUR40 for Surface if it is clearly dirty. Make sure that someone regularly cleans Samsung SUR40 for Surface and cleans the surrounding area. Consider also using this cleaning time to check Samsung SUR40 for Surface for any operational problems.
3. You should choose seats that are lower than the height of the Surface screen. This height reduces how much users have to bend from the waist and provides a more comfortable and ergonomic experience.
4. When you position Samsung SUR40 for Surface vertically by hanging it on the wall or otherwise, here are some additional points to consider about placing it:
   - Make sure that the Samsung SUR40 is positioned at an appropriate height on the wall for the intended users. For example, if you expect families, make sure the Samsung SUR40 will be at a level that children can reach or provide seating that is high enough to make the Samsung SUR40 accessible to children.
   - Make sure that the wall or partition where you hang the Samsung SUR40 is sturdy enough to support it and to tolerate users touching and dragging on the Samsung SUR40.

Preparing for Your Samsung SUR40 Delivery

To prepare for delivery of your Samsung SUR40 for Microsoft® Surface®, use the following checklist.

Locations

- Choose a final destination for Samsung SUR40 for Surface that can support the Samsung SUR40 and that provides sufficient room for users to interact with the Samsung SUR40. Horizontally positioned Samsung SUR40 will need to be accessible from all sides.
- Finish any optimizations to the area around Samsung SUR40 for Surface (such as staging or seating).
- Choose an unpacking location and make sure that Samsung SUR40 for Surface can easily move from the unpacking location to the final destination.
- Make sure there is ventilation in the location to expel heat away from the Samsung SUR40.
- Prepare security measures to keep Samsung SUR40 for Surface safe in the venue.

Lighting

- Remove or reduce any ambient infrared lighting around the location of Samsung SUR40 for Surface (such as windows).
- Remove lighting that will cause glare or reflections on the screen of Samsung SUR40 for Surface.

Passwords

- Prepare an administrator account name and password to use when the technician sets up Samsung SUR40 for Surface.

Connections

- Make sure an electrical outlet and any other connections are prepared and ready. If you are not able to use a floor- or wall-recessed receptacle, make sure you have a cable protector or other solution so that cables do not interfere with regular traffic flow.
- Prepare network or accessory connections and have the cables ready to attach to Samsung SUR40 for Surface.

Software and hardware

- Prepare your applications (and any additional software that they require) for installation.
- Prepare any security or network software that is required for your company (for example, antivirus software or settings to connect Samsung SUR40 for Surface to your domain or workgroup).
- Prepare any device that you want to add for your applications (for example, a media card reader).

Surface Mode

NOTE

In Surface mode, the product can only be controlled by touch input.

Starting the Surface Mode

1. On the Windows desktop, click the Enter Surface Mode icon.
2. When the Surface Application screen is displayed, tap the Surface icon in the middle of the screen.
3. A list of applications available will be displayed as shown below.

4. Move left or right on the screen to select the application desired.

Closing an Application

Touch and drag the Access Point in the corner of the current application screen diagonally to the top right. You can also touch and drag the Surface icon at the bottom right diagonally to the top left. The display will return to the screen showing the list of applications available.

Closing the Surface Mode

NOTE

To close the product, you must close Surface mode to return to Windows mode.

Closing the mode using the OSD menu

1. Press the [⏻] button on the product.
2. In the OSD menu displayed, select Exit Surface Mode.
3. Enter your Windows administrator login and password, and select Exit Surface Mode.

Closing the mode using a shortcut key

1. Connect your keyboard to a USB port on the product.
2. Press Ctrl + Alt + Delete on the keyboard.
3. Select Log off on the screen.

NOTE

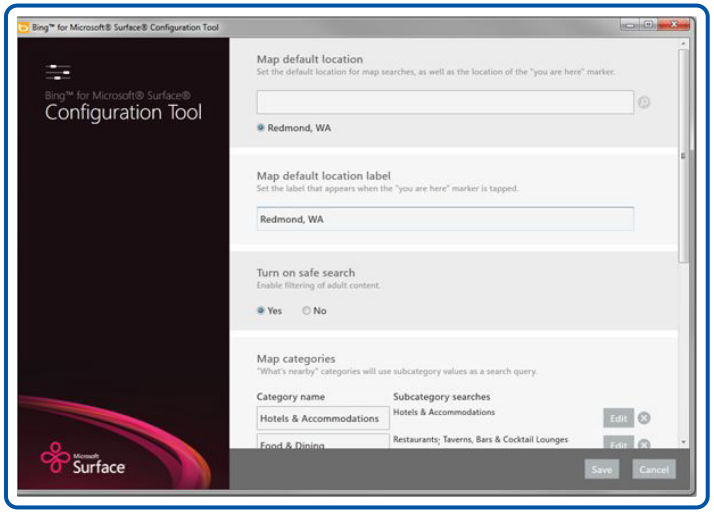
You can’t log back into Surface Mode from the Windows login screen.

Bing™ for Microsoft® Surface®

You can use the Bing™ for Microsoft® Surface® application to search for images and maps with local category information (where available). As an administrator, you can modify some of the settings of the application using the Bing Configuration Tool.

To open the application, on the Start menu, click All Programs, click Bing™ for Microsoft® Surface®, and then click Bing Configuration Tool.

The Bing Configuration Tool

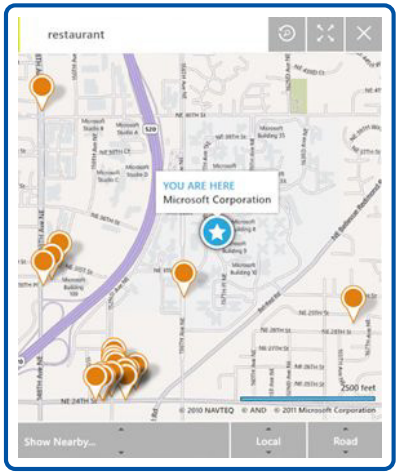

Bing™ for Microsoft® Surface® Configuration Tool
Bing™ for Microsoft® Surface®
Configuration Tool
Map default location
Set the default location for map searches, as well as the location of the "you are here" marker.
Redmond, WA
Map default location label
Set the label that appears when the "you are here" marker is tapped.
Redmond, WA
Turn on safe search
Enable filtering of adult content.
Yes
No
Map categories
"What's nearby" categories will use subcategory values as a search query.
Category name
Subcategory searches
Hotels & Accommodations
Hotels & Accommodations
Edit
Restaurants; Taverns, Bars & Cocktail Lounges
Edit
Save
Cancel
Microsoft Surface

You can use the Bing Configuration Tool to modify the variables described in the following sections.

Default Location

The default location that is displayed on map searches as a star icon.

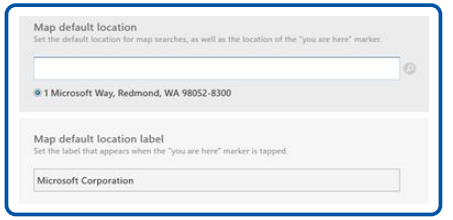
To change the default location, type the location you are interested in, click the search icon, and then select the radio button that best reflects the location you are interested in.



Map Default Location Label

This location is displayed when you click the star icon that shows your current location.

The following map shows an example of the location and label of a customized map.


Map default location
Set the default location for map searches, as well as the location of the "you are here" marker.
1 Microsoft Way, Redmond, WA 98052-8300
Map default location label
Set the label that appears when the "you are here" marker is tapped.
Microsoft Corporation

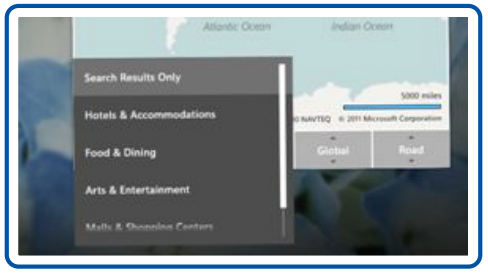
Safe Search

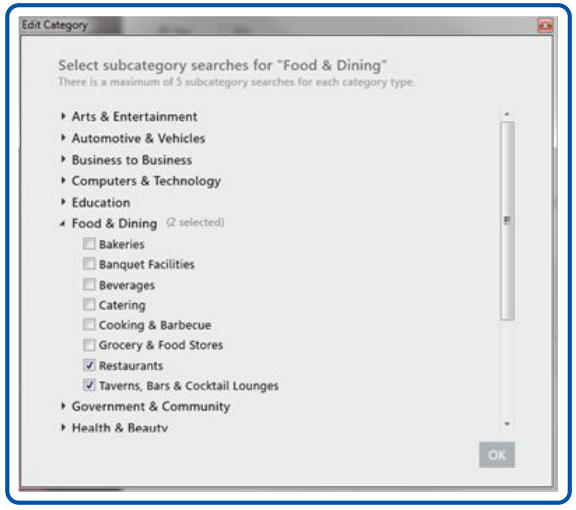
By default, safe search is turned on. When this filter is turned on, any queries sent to the Bing Search APIs are set with the Adult.Strict option. When the filter is turned off, any queries sent turn filtering off.

Location Categories

You can use the configuration tool to modify the categories shown in the Show Nearby section.

You can also use the configuration tool to remove, edit, and add new categories. To add a new category, click Add a new category. Type the category name as you want it to appear in the application, then click the Subcategory Searches field. This will bring up a tree view that allows you to select the Bing Categories that will be queries for the category you created. For example, the Food & Dining category in the application groups the Bing Categories as shown below:





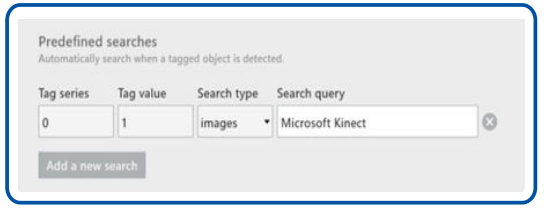
Predefined Searches

You can use the Bing Configuration Tool to register predefined searches with tagged objects. When a tagged object that matches the series and value specified in the configuration tool is placed on the display, a Search button will appear that will allow a user to search for the registered term without having to type it. Both Image and Map searches can be done as predefined searches by entering a tag series, tag value, search type and search query as shown in the example below. For instructions on producing byte tags, please see www.msdn.com/windows/surface.

NOTE

You must enter the tag value as it appears on the center of the tag. For byte tags, the only tag supported in this release, the tag series is always 0.

For example, the following registration value will result in the following search experience.



When you are done using the Bing Configuration Tool, to save your changes, click Save.

That way, the next time you use Bing™ for Microsoft® Surface®, it will maintain the changes you made.

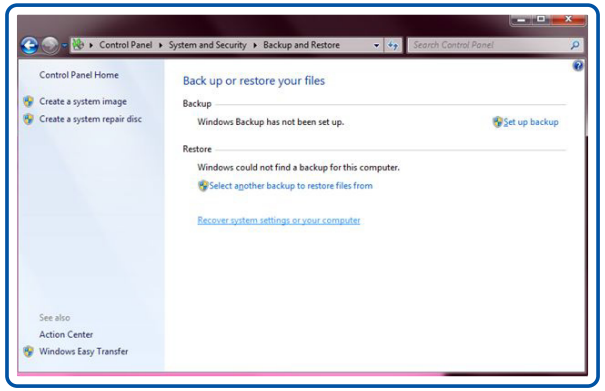
Re-installing Windows 7

If you observe a degradation of the product performance, you can reinstall Windows 7 using the Restore function.

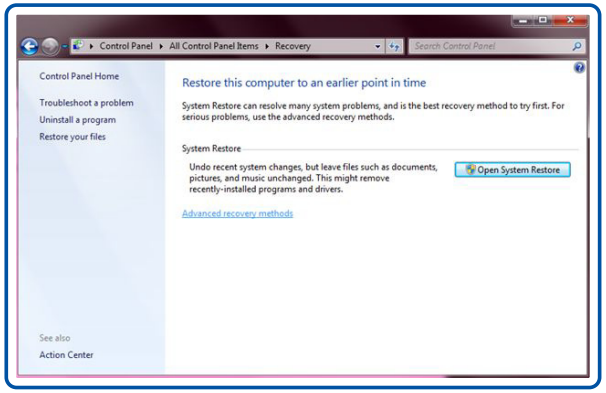
NOTE

Ensure you back up important data to a memory device (USB memory or external hard drive) before initializing Windows 7.

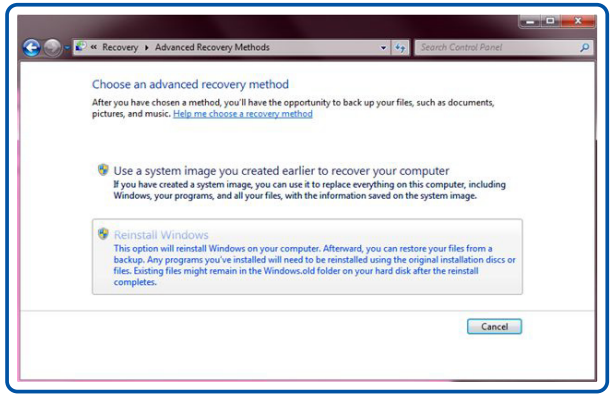
1. Go to Start ⟶ Control Panel ⟶ System and Security ⟶ Backup and Restore, and click Recover system settings or your computer.


Control Panel ▸ System and Security ▸ Backup and Restore
Search Control Panel
Control Panel Home
Create a system image
Create a system repair disc
Back up or restore your files
Backup
Windows Backup has not been set up.
Set up backup
Restore
Windows could not find a backup for this computer.
Select another backup to restore files from
Recover system settings or your computer
See also
Action Center
Windows Easy Transfer

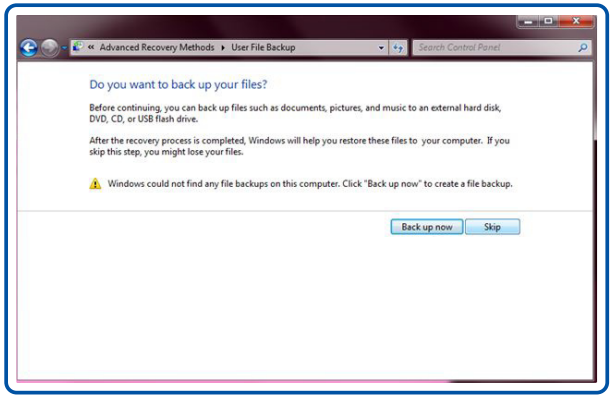
2. Click Advanced recovery methods.


Control Panel ▸ All Control Panel Items ▸ Recovery
Search Control Panel
Control Panel Home
Troubleshoot a problem
Uninstall a program
Restore your files
Restore this computer to an earlier point in time
System Restore can resolve many system problems, and is the best recovery method to try first. For serious problems, use the advanced recovery methods.
System Restore
Undo recent system changes, but leave files such as documents, pictures, and music unchanged. This might remove recently-installed programs and drivers.
Open System Restore
Advanced recovery methods
See also
Action Center

3. Click Reinstall Windows (requires Windows installation disc).


« Recovery ▸ Advanced Recovery Methods
Search Control Panel
Choose an advanced recovery method
After you have chosen a method, you'll have the opportunity to back up your files, such as documents, pictures, and music. Help me choose a recovery method
Use a system image you created earlier to recover your computer
If you have created a system image, you can use it to replace everything on this computer, including Windows, your programs, and all your files, with the information saved on the system image.
Reinstall Windows
This option will reinstall Windows on your computer. Afterward, you can restore your files from a backup. Any programs you've installed will need to be reinstalled using the original installation discs or files. Existing files might remain in the Windows.old folder on your hard disk after the reinstall completes.
Cancel

4. You will be prompted to confirm that you want to back up files as shown below. Back up your important data. After backup, restart the system. Re-installation of Windows 7 will start.


« Advanced Recovery Methods ▸ User File Backup
Search Control Panel
Do you want to back up your files?
Before continuing, you can back up files such as documents, pictures, and music to an external hard disk, DVD, CD, or USB flash drive.
After the recovery process is completed, Windows will help you restore these files to your computer. If you skip this step, you might lose your files.
Windows could not find any file backups on this computer. Click "Back up now" to create a file backup.
Back up now
Skip

Chapter. 5

On Screen Display Menu

Using the On Screen Display (OSD) Menu

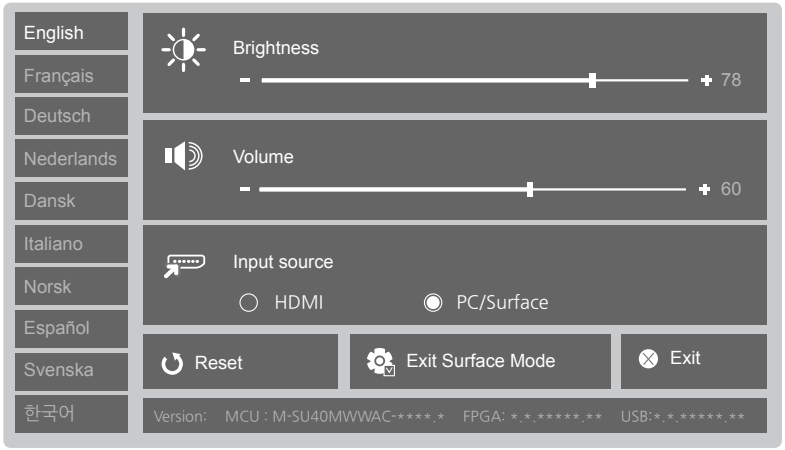
NOTE

The OSD menu of this product can only be controlled by touch input.

1. Press the [ ] button on the product.

2. Select a language and menu.

Configuring the OSD Menu Settings



- Brightness : You can adjust the general brightness of the picture. (Range: 0~100)
  A higher value will make the picture appear brighter.
- Volume : Adjust the audio volume.
- Input source : Select an input source.
- Reset : Reset the menu properties.
- Exit Surface Mode : Close the Surface mode.
- Exit : Close the OSD menu.

Chapter. 6

Using the Calibration Tool

When you observe touch performance starting to degrade, under consistent environmental lighting conditions, the Samsung SUR40 for Microsoft® Surface® may need to be recalibrated.

To run calibration

1. Preparing Samsung SUR40 for Surface for calibration:

- To ensure optimal calibration, allow Samsung SUR40 for Surface to be powered on for at least one hour, allowing the device to warm to normal operating temperatures.
- Clean the screen of the device. Follow the user manual for cleaning instructions. (p.09)
- Be sure to have the calibration board ready that you receive When You purchase SUR40. If you do not have a calibration board, contact the manufacturer of your device made for Surface.
- Connect a keyboard to the USB port.
- Turn up the speaker volume.

Take care to ensure that the On Screen Display (the device menu activated by pressing the device power button) does not appear during the calibration process. This will affect the calibration accuracy; it may cause problems in the touch performance and also display artifacts in the user interface.

2. To perform a calibration, locate the shortcut for the calibration tool on the Windows desktop or in the Program Menu.
The tool is located in the Surface folder: C:\Program Files(x86)\Surface\v2.0.

NOTE

If a User Account Control window appears, click Allow. If the tool detects that the operating temperature is low (less than 32° C), you will receive a warning message. To exit the tool without running calibration, press Alt+F4.

3. Remove all items from on top of Samsung SUR40 for Microsoft® Surface®, place the white side of the calibration board so that it completely covers the screen and press Enter on the keyboard. This step may take 30-90 seconds. When this step is complete, you will hear a sound.

Once calibration has started, you should not exit the tool. Exiting the tool during the calibration process could damage Samsung SUR40 for Microsoft® Surface®.

4. Place the black side of the calibration board so that it completely covers the screen, press Enter on the keyboard. This step may take 5-15 seconds. When this step is complete, you will hear a sound.

5. Remove the calibration board. Calibration data is then analyzed and saved. You will see a message indicating that calibration completed successfully.

6. Press Enter on the keyboard to close the tool. You have completed calibration.

In the event an error occurs during calibration, you should receive an error message. If calibration fails more than three times, or if a catastrophic event is detected, you will be directed to contact the SAMSUNG customer care center.

Chapter. 7

Troubleshooting Guide

Requirements Before Contacting Samsung Customer Service Center

Before calling Samsung Customer Service Center, test your product as follows. If the problem persists, contact Samsung Customer Service Center.

Check the following.

Screen issue

TROUBLESHOOTING	GUIDE
The Power LED is turned off. The screen is blank.	Make sure that the power cord is connected.
The images on the screen look distorted.	Check the cable connection to the product
The screen is not clear. The screen is blurry.	Set the resolution and frequency to the recommended level.
The screen appears unstable and shaky. There are shadows or ghost images left on the screen.	Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu.
The screen is too bright. The screen is too dark.	Adjust the Brightness.

Audio issues

TROUBLESHOOTING	GUIDE
There is no sound.	Check the connection of the stereo cable or adjust the volume.
	Check that the device connected to the product is powered on.
The volume is too low.	Adjust the volume.
	If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software program.

Touch input issues

TROUBLESHOOTING	GUIDE
Touch input is not working properly.	Adjust the light intensity to be as dark as possible in the area where you are using the product.
	Power the product off and on again.

Chapter. 8

Specifications

General

Model Name		SUR40
Panel	Size	40 inches (101 cm)
	Display area	885.6(H) x 498.15(V)
Synchronization	Horizontal Frequency	30 ~ 81 kHz
	Vertical Frequency	56 ~ 75 Hz
Display Color		16.7 M
Resolution	Optimum Resolution	1920 x 1080 60 Hz
	Maximum Resolution	1920 x 1080 60 Hz
Maximum Pixel Clock		148.5 MHz (Digital)
Power Supply		This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Ports	Side	Headphone, MIC In, USB(2DOWN), SD card
	Rear View	HDMI OUT, LAN, USB(2DOWN), HDMI IN, DIGITAL AUDIO OUT(OPTICAL), AUDIO OUT(L,R)
Connectivity		WiFi 802.11b/g/n, Bluetooth 3.0+HS

HDMI Input Resolution		1080p 50/60 Hz, 720p 50/60 Hz, 576p 50 Hz, 480p 50/60 Hz - Interlace mode is not available. - PC Timing is not available. - The deep color feature is not available. - Only RGB444 mode is available. (YCbCr444 and YCbCr422 are not available.)
Dimensions (W x H x D) / Weight		1095.0 x 103.0 x 707.4 mm / 36.8Kg 43.11 x 4.06 x 27.85 inches / 81.1 lbs
Environmental conditions	Operating	Temperature : 41°F - 86°F (5°C - 30°C) Humidity : 8 % - 85 %, non-liquefied, an altitude of 2000m or lower
	Storage	Temperature : -4°F - 113°F (-20°C - 45°C) Humidity : 5 % - 95 %, non-liquefied, an altitude of 3000m or lower
Panel Dots (Pixels)		Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance.

- The above specifications are subject to change without notice to improve quality.
- This device is a Class A digital apparatus.

(USA Only)

Dispose unwanted electronics through an approved recycler.
To find the nearest recycling location, go to our website:
www.samsung.com/recyclingdirect or call, (877) 278 - 0799

FCC / IC Compliance Information

This device complies with Part 15 of FCC Rules and Industry Canada ICES-003.

Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received including interference that may cause undesired operation.

Warnings

This equipment has been tested and found to comply with limits for a class A digital device, pursuant to Part 15 of the FCC Rules and Industry Canada ICES-003.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environmental. This equipment can generates, uses, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE

[Recommendation - EU Only]

Hereby, Samsung Electronics, declares that this [Monitor] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The official Declaration of Conformity may be found at http://www.samsung.com, go to Support > Search Product Support and enter the model name.

In France, this equipment may only be used indoors.

This equipment may be operated in all EU countries.

Power Consumption

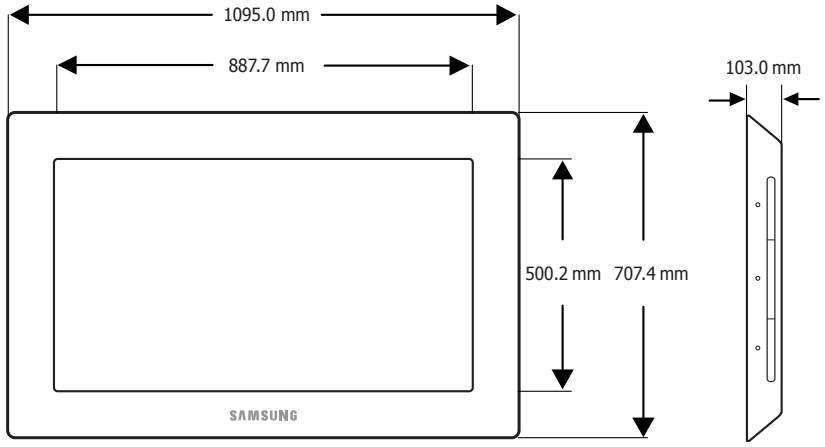
	NORMAL OPERATION	POWER OFF (Windows is closed)	POWER OFF (Mechanical switch off)
Power Indicator	On (white)	Off	Off
Power Consumption	220 Watts	Less than 3 Watts	0 Watts

- The power consumption level can vary in different operating conditions or when settings are changed.
- To reduce the power consumption to 0, turn off the switch at the back or disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.).

Screen Water Ingress Conditions

Conditions	Acceptable level
Amount of liquid	16 oz.(0.5L)
Type of liquid	Water, or liquid with less than 25% ethanol concentration
Guaranteed maximum safe hours of exposure to liquid	2 hours

Dimensions



NOTE

All drawings are not necessarily to scale. Some dimensions are subject to change without prior notice. Refer to the dimensions prior to performing installation of your product. Not responsible for typographical or printed errors.

Chapter. 9

Appendix

Contact SAMSUNG WORLDWIDE

NOTE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care Center.

NORTH AMERICA		
U.S.A	1-800-SAMSUNG (726-7864)	http://www.samsung.com
CANADA	1-800-SAMSUNG (726-7864)	http://www.samsung.com/ca http://www.samsung.com/ca_fr (French)
MEXICO	01-800-SAMSUNG (726-7864)	http://www.samsung.com

LATIN AMERICA		
ARGENTINA	0800-333-3733	http://www.samsung.com
BRAZIL	0800-124-421 4004-0000	http://www.samsung.com
BOLIVIA	800-10-7260	http://www.samsung.com
CHILE	800-SAMSUNG (726-7864) From mobile 02-482 82 00	http://www.samsung.com
COLOMBIA	01-8000112112	http://www.samsung.com
COSTA RICA	0-800-507-7267	http://www.samsung.com
DOMINICA	1-800-751-2676	http://www.samsung.com
ECUADOR	1-800-10-7267	http://www.samsung.com
EL SALVADOR	800-6225	http://www.samsung.com
GUATEMALA	1-800-299-0013	http://www.samsung.com
HONDURAS	800-27919267	http://www.samsung.com
JAMAICA	1-800-234-7267	http://www.samsung.com
NICARAGUA	00-1800-5077267	http://www.samsung.com
PANAMA	800-7267	http://www.samsung.com
PERU	0-800-777-08	http://www.samsung.com
PUERTO RICO	1-800-682-3180	http://www.samsung.com
TRINIDAD & TO-BAGO	1-800-SAMSUNG (726-7864)	http://www.samsung.com
VENEZUELA	0-800-100-5303	http://www.samsung.com

EUROPE		
ALBANIA	42 27 5755	http://www.samsung.co
AUSTRIA	0810 - SAMSUNG (7267864,€ 0.07/min)	http://www.samsung.com
BELGIUM	02-201-24-18	http://www.samsung.com/be(Dutch) http://www.samsung.com/ be_fr (French)
BOSNIA	05 133 1999	http://www.samsung.com
BULGARIA	07001 33 11	http://www.samsung.com
CROATIA	062 SAMSUNG (062 726 7864)	http://www.samsung.com
CZECH	800-SAMSUNG(800-726786)	http://www.samsung.com
	Samsung Electronics Czech and Slovak, s.r.o., Oasis Florenc, Sokolovská 394/17, 180 00, Praha 8	
DENMARK	70 70 19 70	http://www.samsung.com
FINLAND	030 - 6227 515	http://www.samsung.com
FRANCE	01 48 63 00 00	http://www.samsung.com
GERMANY	01805 - SAMSUNG (726-7864, € 0,14/Min)	http://www.samsung.com
CYPRUS	From landline : 8009 4000	http://www.samsung.com
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Correct Disposal

Correct Disposal of This Product

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

The marking on the battery, manual or packaging indicates that the battery in this product should not be disposed of with other household waste. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66.

The battery incorporated in this product is not user replaceable. For information on its replacement, please contact your service provider. Do not attempt to remove the battery or dispose it in a fire. Do not disassemble, crush, or puncture the battery. If you intend to discard the product, the waste collection site will take the appropriate measures for the recycling and treatment of the product, including the battery.

Optimum Picture Quality and Afterimage Burn-in Prevention

Optimum Picture Quality

- To enjoy the optimum picture quality, go to the Control Panel in Windows Mode and adjust the resolution and refresh rate as shown below. The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

RESOLUTION	VERTICAL FREQUENCY
1920 x 1080	60 Hz

- Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance.

THE NUMBER OF SUB-PIXELS BY LCD PANEL TYPE
6,220,800

- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

  Activate power-saving mode or a dynamic screen saver if you will not be using the monitor for an extended period of time.

- Unlike CDT monitors, TFT-LCD monitors (due to the nature of the panel) can be set to only one resolution to obtain the optimum picture quality. Therefore, setting a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your monitor.

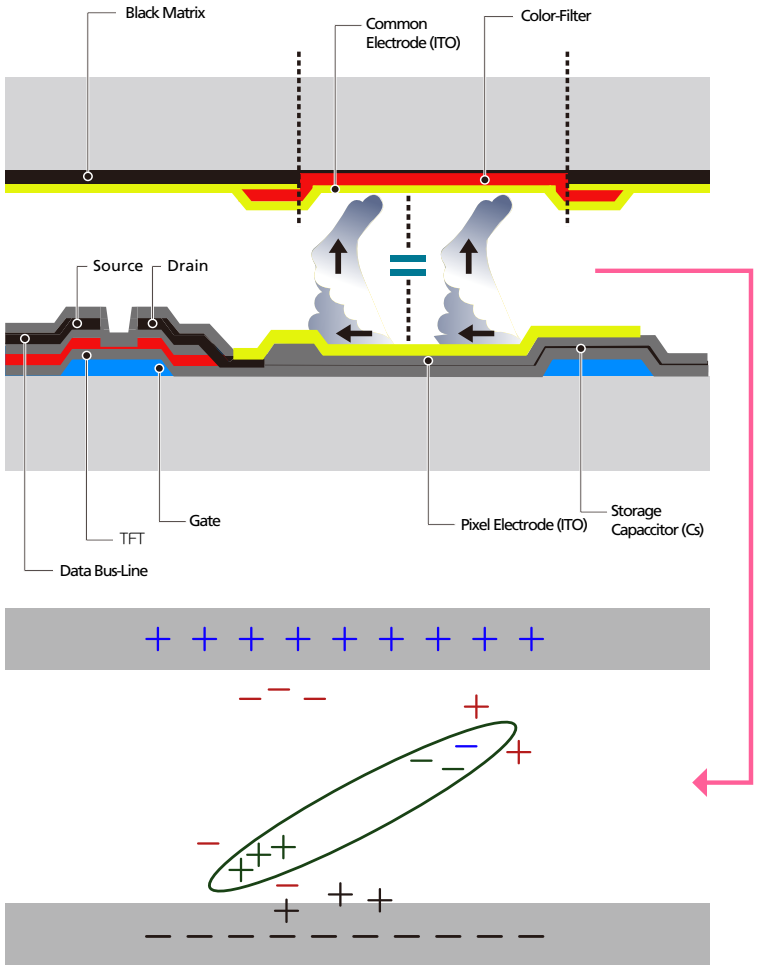
- Light leakage could be on the edge of SIP panel caused by functionality of SIP Panel, but it does not affect performance of the product.

- It is likely to be seen at low contrast and black screen. To minimize the effect of light leakage, it is recommended to use a color higher than 20-grey contrast level for background of the screen.

Prevention of Afterimage Burn-in

What is afterimage burn-in?

Such a voltage difference between electrodes increases with time and makes the liquid crystals thinner. When this occurs, a previous image can remain on the screen when the pattern changes. To prevent this, the accumulated voltage difference should be reduced.



- Powering Off, Screen Saver and Power Saving Mode

  Ensure the product is powered off for 16 hours after it is used for 8 hours.
  Set the product to power off according to the power supply specifications in the display properties of the product.

- Regular Color Change

Type 1

FLIGHT	TIME
OZ348	20:30
UA102	21:10

Type 2

FLIGHT	TIME
OZ348	20:30
UA102	21:10

NOTE

Switch between 2 colors every 30 minutes as shown above.

- Avoid combinations of a text color and background color of contrasting brightness.
  Avoid using grey as it may contribute to afterimage burn-in.
  Avoid using colors of contrasting brightness (black and white; grey).

- Regular Text Color Change

  Use bright colors of similar brightness.
  Interval: Change text color and background color every 30 minutes

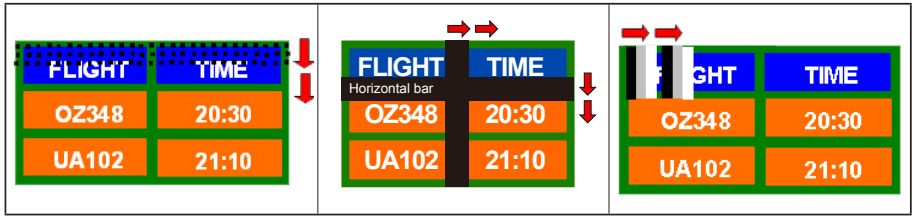
Move and change text every 30 minutes as shown below.

[Step 1] [Step 2] [Step 3]

Regularly display a moving image along with a logo.
Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.

The best way to protect the product from ghost image (image burn-in on the screen) is to turn the power off or enable a screensaver when the product or system is not in use. Also, Warranty service may be limited depending on instruction guide.

PIXEL FUNCTION	BAR FUNCTION	ERASER FUNCTION
Black pixels move vertically.	Two black bars move vertically and horizontally.	A black bar moves horizontally.



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